LISTing Newsletter

Newsletter of the Long Island Sinclair/Timex Users Group

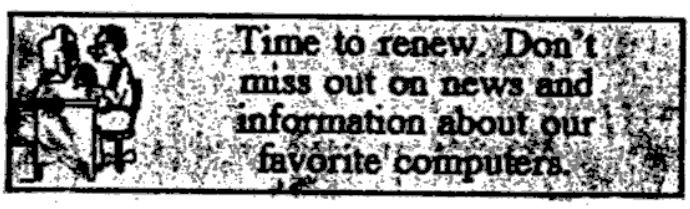
Next Meeting

December 10 1995

Season's Greetings from the Staff





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COMING EVENTS:THE NEXT L.I.S.T. MEETING WILL BE SUNDAY DEC 10 AT 2 P.M.AT THE HOME OF HARVEY RAIT (SEE ADDRESS ABOVE).

****

The meeting of November 10 was an abbreviated one due to the poor attendance. However all was not lost as we finally got on-line with a Hayes 2400 baud modem that was given to Harvey by his son-inlaw.
We used Bob's Compuserve legal codes and password.

MEANDRING WITH HARVEY!!

****

Here is something amusing off the Internet.

"Hello, welcome to the Psychiatric Hotline.

If you are obsessive-compulsive please press 1 repeatedly.

If you are co-dependent,please ask someone to press 2 for you.

If you have multiple personalities,please press 3,4,5, and 6.

If you are paranoid-delusional, we know who you are and what you want.Just stay on the line so that we can trace the call.

If you are schizophrenic,listen carefully and a little voice will tell you which number to press.

If you are manic-depressive, it doesn't matter which number you press. No one will answer.

CAN'T HAVE JUST ONE

Personal computer makers increasingly must rely on consumers who are buying a second or third machine in order for them to achieve sales growth, as a new study shows.

The study, by LINK RESOURCES INC. of New York, also found that PC sales growth is moving faster in Europe and the Pacific Rim than in the U.S. The research suggests that the U.S. market is almost saturated. This fact is greatly due to the U.S. adopting computers for home use much sooner than other countries. The survey also indicates that more people update their machines every few years.

The survey found that there is more than one computer in 30 % of PC owning households in the U.S.

About 35 % to 40 % of U.S. households are expected to have a PC by the end of 1995, with about 11 % owning at least two of them.

Consumers account for about 45 % of all PC sales, followed by businesses,government and educational institutions.

QL CORNER

November seemed to me as though it was Christmas. After a long wait, I received a Di-Ren QL keyboard interface for AT, 101/102 keys keyboard. The interface is the smallest of QL keyboard interfaces and it operates from a PIC1C57 micro chip, which is fitted to the underside of the PC board. All 12 Function keys are operable. There are two header jumpers on the side of the interface and are labeled C1 and C2, respectively. C1 doesn't have to be changed, as it controls an electronic keyboard lock. The C2 jumper sets the keyboard for either a 101 or 102 keyboard; pins 1 and 2 are jumpered for a 101 key keyboard and pins 2 and 3 is for a 102 key keyboard.

You have to remove the 8049 chip from its' socket and then the interface plugs into the IC 8049 socket and the IC plugs into the 40 pin IC socket on the interface. The keyboard connector for the fitting of a keyboard is approximately 10 inches in length with a female 5 pin DIN connector. I received my AST, 101 keyboard several days after the interface arrived. I was astonished when I saw the size of the keyboard; it was small! The keyboard was a charcoal color with 12 function keys across the top of the keyboard. Every key is operational. I still can't get used to the function keys at the top of the keyboard since I have been using 84 key keyboards with ten function keys at the left-hand side of the keyboard. The price for the keyboard interface was $52.00. You can order directly from the manufacturer, Di-Ren, 59 William Street, Walsall, WS4 2AX England. You can most probably purchase this interface from Frank Davis of Mechanical Affinity.

Several days after I had received the Di-Ren keyboard interface, the Super Hermes interface arrived. Reading through the manual, I was quite suprised that the keyboard interface required LOADing support of a file, IPCEXTS_bin. F1 and F2 from an AT keyboard would function and look for this file in the BOOT, so you must amend your BOOT with either a=RESPR(5200): LBYTES flp1_IPCEXTS_bin,a: CALL a or if you have TK2, just LRESPR flp1_IPCEXTS_bin. I added the loading code to my BOOT, ran it, and the keyboard was operable.

I really have not had the chance to get into the 'GUTS' of Super Hermes as of this time as I am reviewing the latest version of Disk Mate 5 for IQLR. The program operates under the Pointer Environment and I have little experience using the PE with the exception of QRAM. Bob Dyl didn't provide much time for me to complete the assignment by December 10th '95. However, it is a most interesting disk utility program and the manual is better than most software manuals for the QL.

Last month I had discussed making connectors for a mechanical keyboard. I remember one day I had thoughts about making another mechanical keyboard. I choose to use my last reed-switch keyboard for the project and then a thought had occurred that just maybe I could use the original QL keyboard keys for this project. This could save me lots of work! The metal plate on the bottom of the QL keyboard was removed, as was the keyboard membrane and it was then that I realized that each key bottom was secured with pressed on snap rings. After a while all of the rings were removed and the key tops were loose. The QL keyboard was placed on top of the mechanical keyboard and all of the QL keys matched the reed switch key posts. There would be 6 more reed switches added to this arrangement. Where the TAB key was situated on the QL keyboard, there wasn't a reed switch to match, so I drilled several holes in the Reed switch pc board, installed a reed switch and epoxyed two small pads of copper for the reed switch to be soldered onto. After the epoxy cured, two #65 holes were drilled into the copper pads and the reed switch was soldered to the pads.

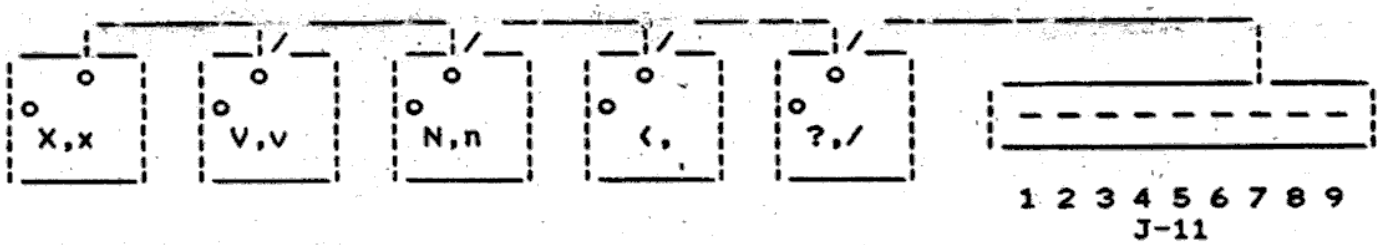
The remaining 5 keys which required placement, were secured to a small PC board I made. These keys were the five function keys and the PC board was attached to the main keyboard with small brackets. The next thing to be accomplished was to wire up each individual key according to the Keyboard matrix, which will appear on the next page of this article.

QL KEYBOARD KEY CONNECTIONS

The following table are connections to the J-11 keyboard connector, pin 7, on the QL Mother board - 9 pin female - columns 1 thru 9.

J-11, 1 - F1, F2, F3, F4, F5, 4, 5, 7	8 keys
J-11, 2 - 2, Q, E, T, 6, U, 8, 0	8 keys
J-11, 3 - W, TAB, R, Y, I, O, 9 -(minus)	8 keys
J-11, 4 - 3, 1, A, D, H, J, L, P	8 keys
J-11, 5 - CAPSLOCK, S, F, G, K, ;, [, =	8 keys
J-11, 6 - Z, C, B, M,), ',],	8 keys
J-11, 7 - X, V, N, (, ?	5 keys
J-11, 8 - LFT ARROW, ESC, RT ARROW, SPACE, UP ARROW, DOWN ARROW, ENTER, \	8 keys
J-11, 9 - CTRL, SHIFT (2), ALT	3 keys

To use the above table, connect wires from one key switch terminal to the next key switch terminal until each of the 'J-11' matrix 'column' rows (J-11, 7 for example) are connected together).

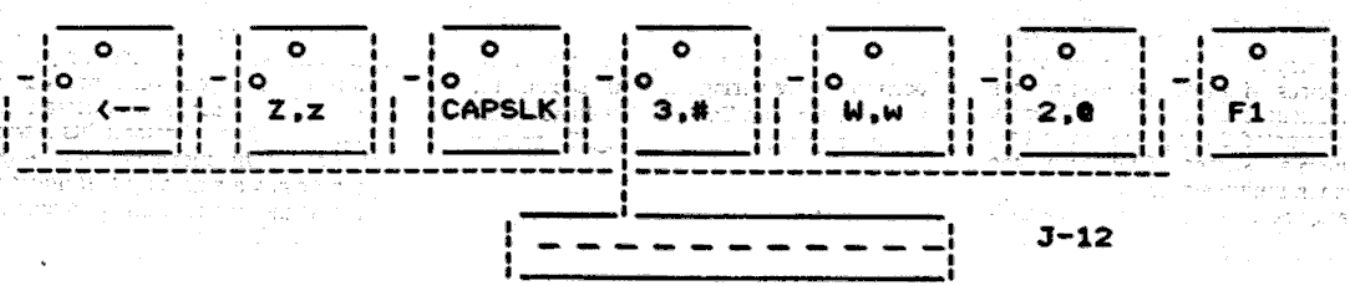


ROW J-11, 7

The following table are connections to the J-12 keyboard connector, pin 3, on the QL Mother board - 11 pin female - rows 1 thru 12.

J-12, 1 - CTRL	1 key
J-12, 2 - SHIFT (2)	2 keys
J-12, 3 - RT ARROW, Z, CAPSLOCK, 3, W, 2, F1	7 keys
J-12, 4 - ESC, X, C, S, 1, TAB, Q, F2	8 keys
J-12, 5 - LEFT ARROW, V, B, F, A, R, E, F3	8 keys
J-12, 6 - SPACE, N, M, G, D, Y, T, 4	8 keys
J-12, 7 - UP ARROW,), K, H, I, 5, 6	7 keys
J-12, 8 - DN ARROW, (, ', :, O, U, 7	8 keys
J-12, 9 - ENTER,], [, L, 8, 9, F4	7 keys
J-12, 10- \, ?, ', =, P, -, Q, F5	8 keys
J-12, 11- ALT	1 key

To use the above table, connect wires from one key switch terminal to the next key switch terminal until each of the 'J-12' matrix rows, J-12, 3 for example) are connected together).

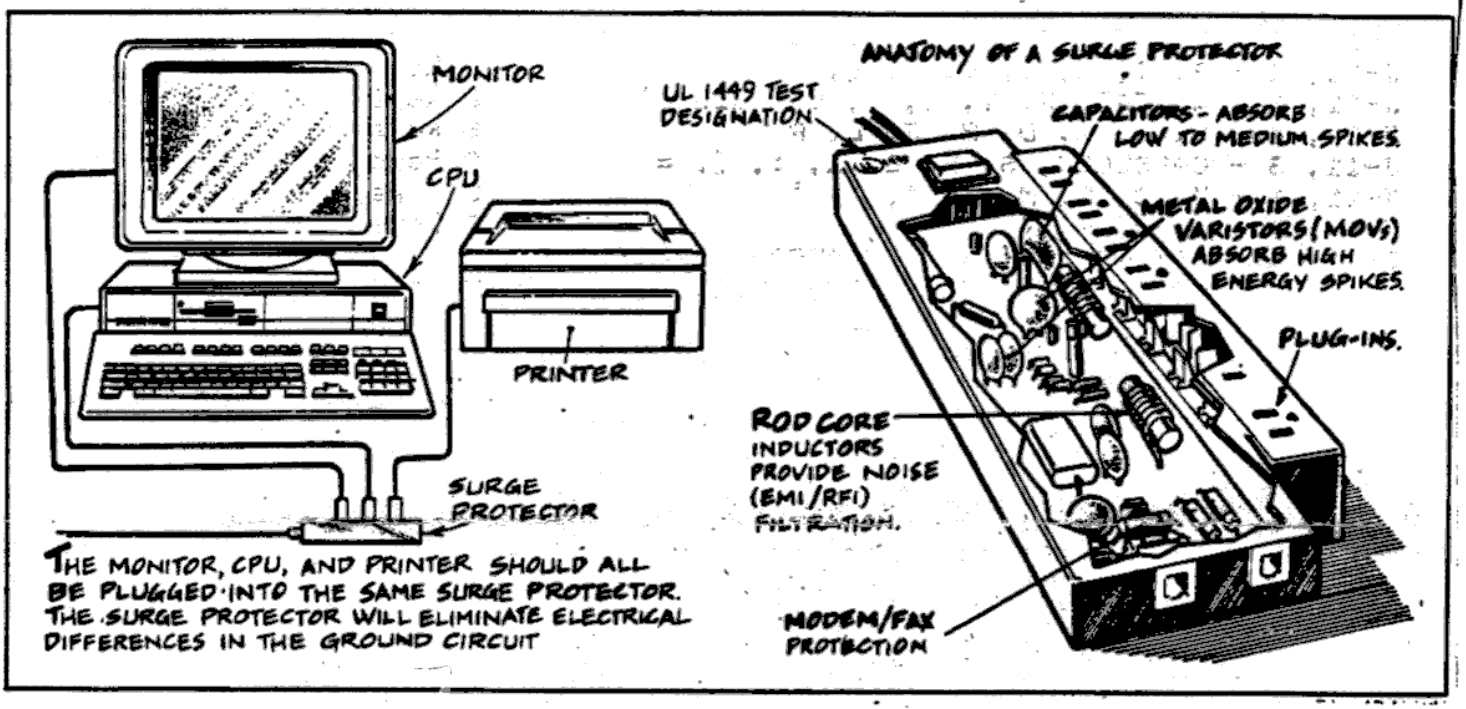


ROW J-12, 3

SEE pages 9 & 10

See you next month... *Bob Gilder*

With Computers, Connections Count



By EDWARD R. LIPINSKI

IT is important to connect computers correctly. Manuals explains how, and they also suggest using surge protectors to isolate the computer from surges in the power lines.

Buying a protector seems simple enough, until the time to shop for one. Computer stores sell protectors for up to $50. A hardware store may sell a one for $5.

Both may have a label from the Underwriters' Laboratory that they have been tested by that company. The UL label for a surge suppressor should carry a UL 1449 listing. Otherwise the item may have been tested as an extension cord.

Understand what surges are and how they affect computers. Generally electricity enters houses at 120 volts. But there are times when lightning can instantaneously increase voltage, Those spikes are like electrical tidal waves that can easily send 1,000 or more volts through circuits.

Not all problems as dramatic as spikes. Often the power can jump 50 or 100 volts. Those may last 1/20th second and are called surges. A surge can come from an outside source, or it may be generated in the house. When appliances with high-powered motors like air-conditioners are switched off, extra voltage is dissipated through the power line, causing internal surges. Frequently the surges come in multiple pulses.

Computers and other devices with sensitive electronics, including printers, facsimile machines, VCR's, television sets, modems and some kitchen appliances, require a steady 120 volts, which are stepped down to 5 volts. Surges penetrating the computer can overload circuits and burn components. Suppressors filter out the excess voltage before it goes to the computer.

The best way to judge a protector is to read the specifications on the package. Look for the term clamping voltage. A rating of 300 volts is widely regarded as adequate for most home computers. That means that the protector is activated when 300 volts or more are detected. A rating of less than 300 volts indicates a more sensitive protector.

Some protectors use let-through voltage instead, That meaning the maximum that the protector transmits. Again 300 volts is adequate, but a lower rating like 80 volts offers greater protection.

Next look for an energy dissipation, or surge energy capacity, rating. That is listed in joules, the number of watts consumed in a second. The figure indicates how much power the protector absorbs before it fails. An average rating is 115 joules. A higher rating indicates more resistance to failure.

Many units include a maximum surge, in volts, and maximum spike, in amperes, in their specifications. Like the energy dissipation, they indicate how much power the protector absorbs before internal circuits fail. Often the ratings are quite high, like 6,000 volts and 6,000 amperes.

But a 6,000-volt spike would most likely burn the house wiring before it reaching the surge suppressor. Those high-voltage spikes are usually caused by lightning. To protect house wiring an electrician should install special suppressor. Even with such an iten an individual suppressor for the compute may be advisable.

Not all electrical interference comes fro surges. Sometimes household appliances r radios generate minor signals called nois that disrupt computers. A good suppress has an electromagnetic and radio-frequenc filter that shuts out most interference. Th E.M.I.-R.F.I. will be specified as a frequenc range in hertz. A typical range would be 15 kilohertz to 20 megahertz. Not all specifica tions are in hertz. Some are in decibels, s look for a range from 4 to 40.

Also look for response time, the perio needed to react to a surge. A typical respons time is one nanosecond. A nanosecond is on billionth of a second. This is less time than takes the electricity to travel through stan household wiring. Astonishingly, some surg protectors have even faster response time of 0 nanoseconds, or "instantly."

What happens to a surge suppressor whe it takes a jolt of electricity that knocks out it internal circuitry? The unit should fail an create an open circuit that effectively shut down all power into the computer. Som suppressors create a closed circuit whe they fail which means the suppression cap bility is destroyed. Yet a pathway remain for successive surges to penetrate. A qualit suppressor has indicator lights to warn abou improperly functioning circuits. A good su pressor has a warranty that offers replace ment if the unit fails and also possible com pensation for damaged equipment.

A printer and modem connected to th computer should be plugged into the sam protector unit with multiple outlets. Read th specifications to be sure that all the outlet have protection. Plugging the component into the same device eliminates ground lea that can occur with separate plug-ins.

Nearing the $500 Computer for Internet Use

By LAWRENCE M. FISHER

The $500 PC may not be here yet, but how about the £500 PC? A British computer maker is about to introduce a stripped-down machine for Net surfing that sells for about $900, roughly £590.

Even as the chief executives of the Oracle Corporation and Sun Microsystems Inc. proclaim their intention to produce low-cost, easy-to-use devices for viewing the World Wide Web, Acorn Computer Group P.L.C. already has a product that comes close: the A-7000, a multimedia personal computer equipped with a color monitor and software.

By stripping the A-7000 of its monitor and hard disk drive, and adding a high-speed modem, Acorn executives say they can hit a retail price less than $500 for a machine that could provide access to the Internet and could perform most routine functions of a personal computer. They plan to ship such a device, called the Netsurfer, by early next year, and are discussing licensing with a number of American and Asian companies.

Indeed, executives close to Oracle say the company is considering Acorn's machine as the basis for an Internet computer. Neither Oracle nor Acorn officials would comment regarding such talks, but Lawrence J. Ellison, Oracle's chairman and chief executive, has said the company's proposed machine would probably use the ARM microprocessor

Some question the viability of a stripped-down PC.

produced by Acorn's sister company, Advanced RISC Machines Ltd. of Cambridge, England. Oracle and Acorn are collaborating on a TV set-top box, as well.

"I don't think anybody can make the total system cost as low as we can," Robin Saxby, Advanced RISC's president and chief executive, said.

As the company's name implies, Advanced RISC's microprocessors employ reduced instruction set computing technology, which is commonly used to make the highest performance chips by companies like Sun and Silicon Graphics Inc.

In Advanced RISC's case, the technology is used to make a chip comparable only to the Intel Corporation's 486DX2, but in a much smaller size and with lower power consumption, hence at a lower cost. That is why Apple Computer Inc. uses the ARM chip in its Newton.

At $20, the ARM chip costs far less than Intel equivalents, and Acorn uses its own operating system software, so it does not have to pay licensing fees to the Microsoft Corporation. The operating system is loaded in read-only memory chips, which are less costly than random access memory chips.

"We have been forced through price competition to use every single trick we can find to square the circle of price performance against the behemoths," said Peter Bondar, director of Acorn's Applied RISC Technology unit.

Early on, Acorn developed a method for displaying high-quality text on televisions because monitors were too costly for many. That technology is applicable to the Netsurfer, which most analysts believe will be used as a living room machine.

While few Americans have seen an Acorn computer, they are well regarded in Britain, where they are popular in schools.

"The problem Acorn has always had is because it is a U.K. company, it has no profile in the United States," said Guy Kewney, a London correspondent for PC Magazine. "If somebody like Larry Ellison were to climb on that particular bandwagon, I don't think he would find it to be without wheels. I think it would roll."

But United States computer analysts are more skeptical, doubting not that Acorn can make a $500 machine, but that such a machine can be sold profitably, and that the Internet could serve as the repository of all software.

"What are you going to do for software?" asked Kimball Brown, an analyst with Dataquest. "If we had two-way cable into the home that would be a whole other ball game, but that's 10 years away."

I.B.M. Plans to Add Java Software Language to Its Arsenal

By LAURENCE ZUCKERMAN

For much of the last decade, I.B.M. has been criticized for missing opportunities by stubbornly sticking to its own home-grown software rather than embracing de facto industry standards like the Microsoft Corporation's Windows operating system. Yesterday, the tables appeared to have turned.

The International Business Machines Corporation announced that it was licensing Sun Microsystems Inc.'s new Java software language, which is rapidly emerging as a new standard for developing interactive software for the Internet.

I.B.M. said it planned to add Java to its software that enables computer users to browse the Internet's World Wide Web. But it also plans to add Java to various operating system software programs, including Microsoft's Windows 3.1, the version that is still the most widely used despite the recent introduction of Windows 95.

By doing so, I.B.M. will be offering a Java-equipped version of Windows before Microsoft does — even if it is for the older version of the software.

More than 10 leading companies, including I.B.M., Netscape Communications and Oracle, have now licensed Java, but Microsoft has expressed little interest because it hopes to promote a competing language to software developers.

Many industry analysts believe that the Internet threatens to topple Microsoft's dominance of personal computer software by moving many applications off the desktop and into networks. The company, which has been criticized for being caught flat-footed by the emergence of the Internet, is scheduled to discuss its strategy at a meeting today with reporters and analysts.

Sun has already written software that enables users of both Windows 95 and Windows NT, a Microsoft operating system used in office networks, to take advantage of Java software. But it has not done the same for Windows 3.1 because that version does not easily lend itself to supporting the type of interactive applications in which Java specializes.

"The fact that I.B.M. would take on one big challenge that we haven't had time for is great news for us," a Sun spokesman said.

Though Java does not need Microsoft's endorsement to succeed, it would certainly help. Java's first big lift came when Netscape agreed to build Java into its Navigator Internet browser software, which has an estimated 80 percent share of the market. If Microsoft agreed to build Java into its Windows operating systems, it would dominate the market very quickly.

But that does not appear to be likely soon. Microsoft declined to comment yesterday, but when the company's chairman, William H. Gates, was asked about Java in New York earlier this week, he made it clear that he saw the software as a major threat to Microsoft.

"Java is there to overthrow what we've done," he said.

SAVINGS CAN COST ON SPEED !!

The personal computr market has just gotten even more volatile.

If you are contemplating the purchase of a new PC running Windows 95 software, this means unexpected price breaks before Christmas- with another round of cuts due in February. Apple has already announced 15 % price cuts on some desktop models, here the first week of December.

If you can't wait until next year to by a PC, be aware that the latest changes have raised the bar on what constitutes a minimal system capable of delaying obsolescence for almost three years.

The price of entry level computers with Intel's Pentium processors running at clock speeds of 75 megahertz should tumble through December because of reports that #1 selling home PC maker, Packard Bell overestimated the market for 75 megahertz machines. Whether there is a glut or not (Packard Bell denies this), the mere perception is enough to drive the prices down.

Meanwhile home PC buyers are quickly moving up to machines running at 100 and 133 MHZ for better performance. Feeding this trend are price reductions for faster central processing chips as Intel keeps upgrading the speed of its line of Pentiums (the microprocessors used in most personal computers today).

By Feruary 1996, when Intel introduces its 150 HHZ Pentiums, the prices of new PCs running at a mere 133 MHZ or less are expected to fall at least another 25 %. If you can't wait until 1996 to buy a new PC, here is a checklist of features needed to keep up with the changing times:

1. Central processor at least 90MHZ Pentium.
2. Internal memory at least 16 megabytes of RAM.
3. Hard disk at least 1 gigabyte of file space.
4. Fax modem at least 28.8 kilobits per second (baud).
5. CD-ROM drive at least 4X (quad) speed. The standard CD-ROM drive in home PCs sold today is four times faster than the first CD-ROM players. New 6X drives are challenging them , but it should be a year before 8X speed drives become standard.

A home PC with the above minimum specifications outlined above is likely to cost $2,000 or more. However anything meeting lesser specifications will depreciate faster than you can say "Timex-Sinclair"

Connect a Monitor to the TS1000

Cass R. Lewart

Using a Timex/Sinclair 1000 with a video monitor instead of a TV set gives a dramatic improvement in the picture quality. This is particularly so with respect to the TS1000 graphic symbols.

Although the computer comes only with a standard RF output, it is comparatively easy to provide an additional monitor output. My modification requires only a single transistor: a Radio Shack 276-2009 or equivalent. No traces have to be cut on the TS1000 board. The result is a display with full brightness and contrast on any run-of-the-mill monitor. The modification should take no more than 10 minutes to perform.

To perform the operation, first remove the Phillips screws on the bottom of the computer (some of these screws are hidden under the rubber feet). Then make the soldered connections as shown in Figure 1. Tap the video input to the RF modulator and use one of the other two inputs as power supply (B+) for the transistor. To get B+ on the lead indicated, the computer channel switch must be kept in the Channel 2 position.

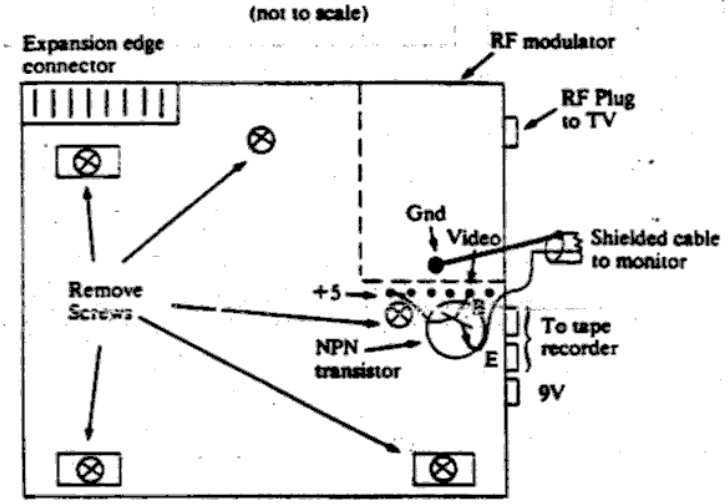
The video voltage at the input to the RF modulator is approximately 1 Volt peak to peak. This would be sufficient to drive a monitor with sufficient contrast and brightness. However, the source impedance at this point is nearly 1000 Ohms. Therefore, a direct connection to a 50-75 Ohm monitor means a voltage drop to less than 100 mV. The result would be marginal brightness and contrast. The NPN transistor connected in the emitter follower configuration, as shown, provides the required impedance transformation, so that the full 1 Volt peak to peak reaches the monitor independent of the impedance of the monitor.

Next, decide where to mount the video monitor output jack. You can mount it next to the RF output, or, if you are not planning to use the RF output, you can use the RF jack and bypass the RF modulator. My own solution, though not a very neat one, was to let two wires dangle through one of the holes and to connect the wires to the monitor with clip leads.

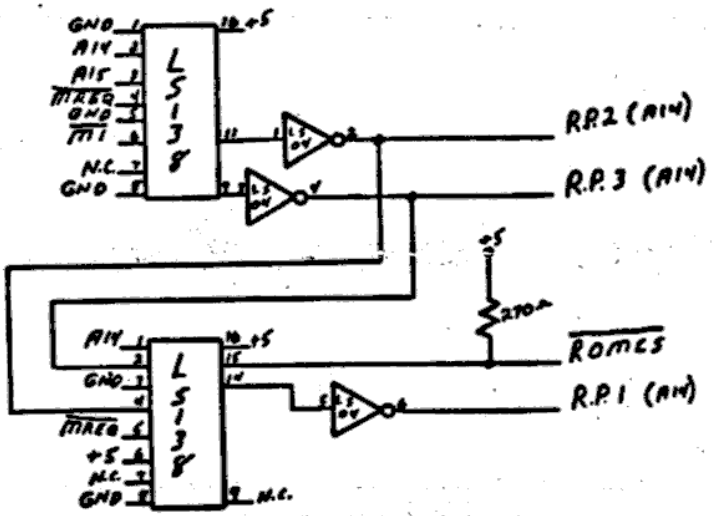
Cass R. Lewart, 12 Georgean Dr., Holmdel, NJ 07733.

Figure 1.

TS1000 bottom view
(not to scale)



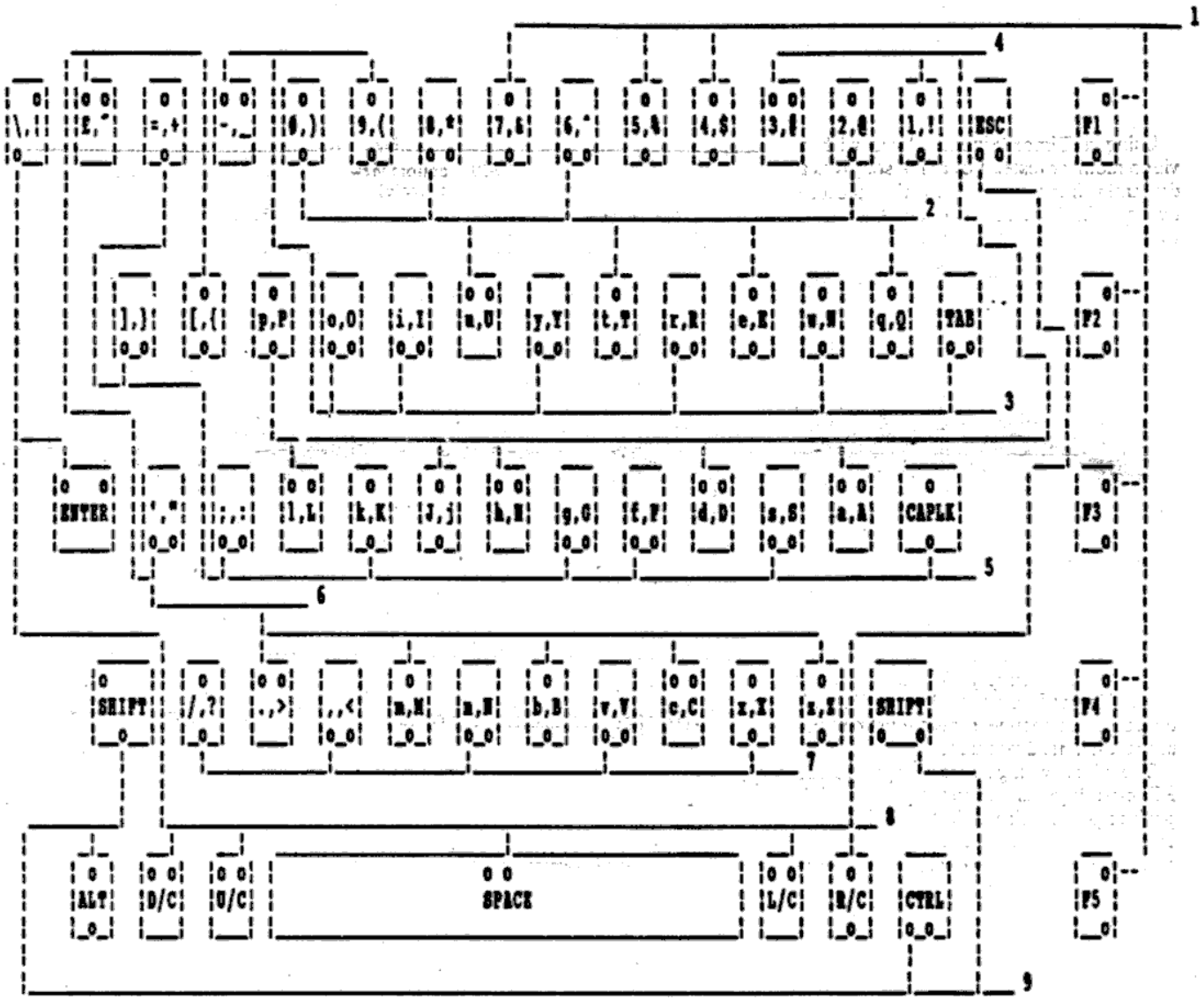
Memory decoding for 3 16K Timex rampacs



The T/S rampacs use address line A14 as an enable. By interrupting and controlling this signal we can control where the rampac will be mapped. This circuit will map three rampacs RP1 @ 16384, RP2 @ 32768, RP3 @ 49152. The top 32K of ram can only be used for variable storage or ram disk. If your basic program pushs the display file into this area your program will be transformed into a graphic's generator. All other lines to the rampacs except A14 remain the same.

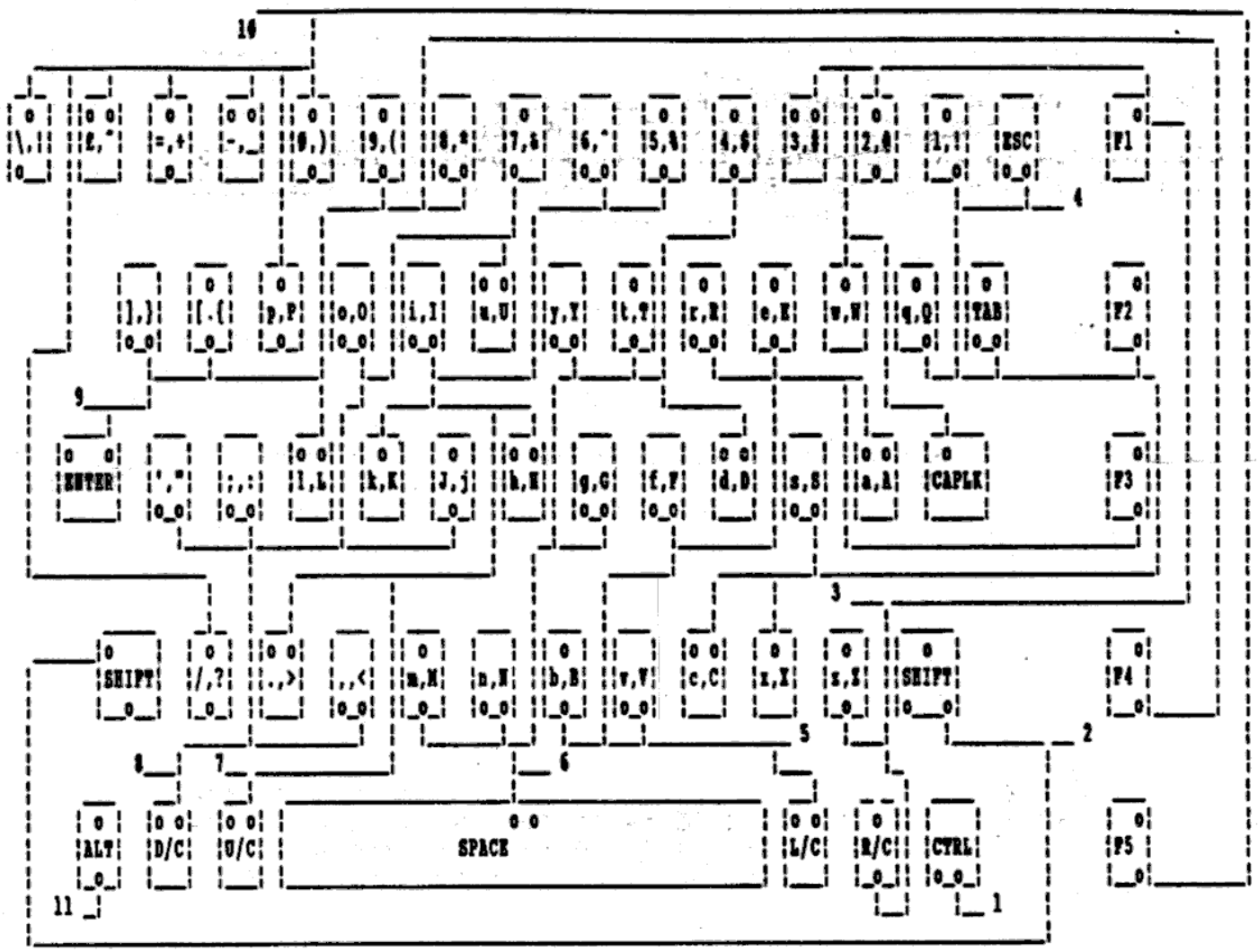
D. DAILEY

BOTTOM VIEW OF THE QL KEYBOARD WIRING FOR J-11, 1 THROUGH 9



J-11, 1 - F1, F2, F3, F4, F5, 4, 5, 7	8 keys
J-11, 2 - 2, Q, E, T, 6, U, 8, 0	8 keys
J-11, 3 - W, TAB, R, Y, I, O, 9 -(minus)	8 keys
J-11, 4 - 3, 1, A, D, H, J, L, P	8 keys
J-11, 5 - CAPSLOCK, S, F, G, K, :, [, =	8 keys
J-11, 6 - Z, C, B, M, >, ",], £	8 keys
J-11, 7 - X, V, N, <, ?	5 keys
J-11, 8 - LFT ARROW, ESC, RT ARROW, SPACE, UP ARROW, DOWN ARROW, ENTER, \	8 keys
J-11, 9 - CTRL, SHIFT (2), ALT	3 keys

BOTTOM VIEW OF THE QL KEYBOARD WIRING FOR J-12, 1 THROUGH 11



J-12, 1 - CTRL	1 key
J-12, 2 - SHIFT (2)	2 keys
J-12, 3 - LEFT ARROW, Z, CAPSLOCK, 3, W, 2, F1	7 keys
J-12, 4 - ESC, X, C, S, 1, TAB, Q, F2	8 keys
J-12, 5 - RT ARROW, V, B, F, A, R, E, F3	8 keys
J-12, 6 - SPACE, N, M, G, D, Y, T, 4	8 keys
J-12, 7 - UP ARROW, >, K, H, I, 5, 6	7 keys
J-12, 8 - DN ARROW, <, ", :, O, U, 7	8 keys
J-12, 9 - ENTER,], [, L, 8, 9, F4	7 keys
J-12, 10- \, ?, £ , =, P, -, Q, F5	8 keys
J-12, 11- ALT	1 key